[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2014-0244]

Guidelines for Evaluating the Effects of Light-Water Reactor Coolant Environments in Fatigue Analyses of Metal Components

AGENCY: Nuclear Regulatory Commission.

ACTION: Draft regulatory guide; request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing for public comment draft regulatory guide (DG), DG-1309, "Guidelines for Evaluating the Effects of Light-Water Reactor Coolant Environments in Fatigue Analyses of Metal Components." This guide, Revision 1 of Regulatory Guide 1.207 has been revised to consolidate, update, and replace previous NRC staff guidance on the effects of light-water reactor coolant environments on the fatigue lives of nuclear power plant components. This proposed revision provides an alternative to previous guidance provided for new reactors in Revision 0 of this guide, as well as to previous guidance provided for license renewal of operating reactors in the Generic Aging Lessons Learned (GALL) Report and the Standard Review Plan for License Renewal (SRP-LR). This guide supports reviews of applications for new nuclear reactor construction that are licensed under the NRC's regulations.

DATES: Submit comments by **INSERT DATE 60 DAYS FROM THE DATE OF PUBLICATION IN THE *FEDERAL REGISTER***. Comments received after this date will be considered if it is

practical to do so, but the NRC is able to ensure consideration only for comments received on or before this date. Although a time limit is given, comments and suggestions in connection with items for inclusion in guides currently being developed or improvements in all published guides are encouraged at any time.

ADDRESSES: You may submit comment by any of the following methods (unless this document describes a different method for submitting comments on a specific subject):

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2014-0244**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-287-3422; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individuals listed in the FOR FURTHER INFORMATION CONTACT section of this document.
- **Mail comments to:** Cindy Bladey, Office of Administration, Mail Stop: 3WFN 06A-A44M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

For additional direction on accessing information and submitting comments, see "Obtaining Information and Submitting Comments" in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Gary L. Stevens; telephone: 301-251-7569, e-mail: Gary.Stevens@nrc.gov; and Steve Burton; telephone: 301-415-7000 e-mail: Stephen.Burton@nrc.gov. Both are staff of the Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

SUPPLEMENTARY INFORMATION:

I. Obtaining Information and Submitting Comments.

A. Obtaining Information.

Please refer to Docket ID **NRC-2014-0244** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this action by the following methods:

- **Federal Rulemaking Web site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2014-0244**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-287-3422; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individuals listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the NRC Library at http://www.nrc.gov/reading-rm/adams.html. To begin the search, select "ADAMS Public Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The DG is available electronically in ADAMS under Accession No. ML14171A584.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

B. Submitting Comments.

Please include Docket ID **NRC-2014-0244** in the subject line of your comment submission, in order to ensure that the NRC is able to make your comment submission available to the public in this docket.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC posts all comment submissions at http://www.regulations.gov as well as entering the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment submissions into ADAMS.

II. Additional Information.

The NRC is issuing for public comment a DG in the NRC's "Regulatory Guide" series. This series was developed to describe and make available to the public such information as methods that are acceptable to the NRC staff for implementing specific parts of the NRC's regulations, techniques that the staff uses in evaluating specific problems or postulated accidents, and data that the staff needs in its review of applications for permits and licenses.

The DG, entitled, “Guidelines for Evaluating the Effects of Light-Water Reactor Coolant Environments in Fatigue Analyses of Metal Components” is temporarily identified by its task number, DG-1309. This DG-1309 is proposed Revision 1 of Regulatory Guide 1.207. The DG describes methods and procedures that the NRC staff considers acceptable for use in determining the acceptable fatigue lives of components evaluated by a cumulative usage factor (CUF) calculation in accordance with the fatigue design rules in Section III, “Rules for Construction of Nuclear Power Plant Components,” of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (hereinafter Code) with consideration of the effects of light-water reactor coolant environments. This DG supports reviews of applications for new nuclear reactor construction permits or operating licenses under part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR); design certifications under 10 CFR part 52 and combined licenses under 10 CFR part 52 that do not cite a standard design; and renewed operating licenses under 10 CFR part 54.

This revision consolidates, updates, and replaces previous NRC staff’s guidance on the effects of light-water reactor coolant environments on the fatigue lives of nuclear power plant components. This revision provides an alternative to previous guidance for new reactors provided in Revision 0 of this guide, as well as previous guidance provided for pursuing license renewal of operating reactors in the GALL Report and the SRP-LR.

III. Backfitting and Issue Finality.

This DG describes methods and procedures that the NRC staff considers acceptable for use in determining the acceptable fatigue lives of components evaluated by a cumulative usage factor (CUF) calculation in accordance with the fatigue design rules in Section III, “Rules for

Construction of Nuclear Power Plant Components," of the ASME Code. This DG supports reviews of applications for new nuclear reactor construction permits or operating licenses under 10 CFR part 50; design certifications under 10 CFR part 52 and combined licenses under 10 CFR part 52 that do not cite a standard design; and renewed operating licenses under 10 CFR part 54. This DG may also be used by existing holders of combined licenses and operating licenses, in accordance with their existing licensing basis and applicable regulatory requirements.

This DG, if finalized, would not constitute backfitting as defined in 10 CFR 50.109 (the Backfit Rule) and is not otherwise inconsistent with the issue finality provisions in 10 CFR part 52, "Licenses, Certifications and Approvals for Nuclear Power Plants." Applicants and potential applicants are not, with certain exceptions, protected by either the Backfit Rule or any issue finality provisions under part 52. Neither the Backfit Rule nor the issue finality provisions under part 52 – with certain exclusions discussed below – were intended to apply to every NRC action which substantially changes the expectations of current and future applicants.

The exceptions to the general principle are applicable whenever a combined license applicant references a part 52 license (i.e., an early site permit or a manufacturing license) and/or part 52 regulatory approval (i.e., a design certification rule or design approval). The NRC staff does not, at this time, intend to impose the positions represented in the DG in a manner that is inconsistent with any issue finality provisions in these part 52 licenses and regulatory approvals. If, in the future, the NRC staff seeks to impose a position in this DG in a manner which does not provide issue finality as described in the applicable issue finality provision, then the NRC staff must address the criteria for avoiding issue finality as described in the applicable issue finality provision.

Existing licensees and applicants of final design certification rules will not be required to comply with the positions set forth in this draft regulatory guide, unless the licensee or design certification rule applicant seeks a voluntary change to its licensing basis with respect to the effects of light-water reactor coolant environments on the fatigue lives of nuclear power plant components by means of a cumulative usage factor, and where the NRC determines that the safety review of the licensee's request must include consideration of the effects of light-water reactor coolant environments on the fatigue lives of nuclear power plant components. Further information on the staff's use of the DG, if finalized, is contained in the DG under Section D. Implementation.

Dated at Rockville, Maryland, this 18th day of November, 2014.

For the Nuclear Regulatory Commission.

Thomas H. Boyce, Chief,
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